GIANT CELL INTERSTITIAL PNEUMONIA IN A PET GUINEA PIG DUE TO EXPOSURE TO AIR DUST

A. Rodo and W. Bielecki
Department of Pathology and Veterinary Diagnostics, Faculty of Veterinary Medicine, Warsaw University of Life Sciences-SGGW, Poland

Introduction: Studies on the pathogenic effects of air exposure to carbon particles involve mainly experimental animal models. The physical structure and insolubility of particles can impair normal clearance of the lung, resulting in chronic inflammation and fibrosis. Occurrence of pulmonary pathology due to exposure to air dust is poorly documented in pet animals.

Materials and Methods: A 4-year-old male guinea pig, living in Warsaw, was presented with a history of anorexia and depression. Clinical examination revealed dyspnoea and patchy peribronchiolar infiltration of the caudal lung lobes on radiography. A diagnosis of bronchopneumonia was made. The animal was treated with antibiotics (cefaclorum) for 1 month, resulting in recovery. After recurrence of clinical signs, the treatment was repeated. Three weeks after the second recovery, the animal died.

Results: Post-mortem examination revealed that the laryngeal entrance was covered with soft foreign material (fermented milk). There was cyanosis and congestion of the lungs, liver and kidneys. Histopathology of the lungs revealed mononuclear cell infiltration in the interstitial tissue and the presence of high numbers of macrophages with carbon granules within the cytoplasm and also many multinucleated giant cells.

Conclusions: This is the first report in Poland documenting giant cell interstitial pneumonia due to exposure to air dust in a pet guinea pig.

A LABRADOR RETRIEVER DIAGNOSED WITH ALEXANDER'S DISEASE AND THE IDENTIFICATION OF THE CAUSAL GFAP MUTATION

L. Van Brantegem*, M. Van Poucke†, V. Martlé‡, R. Ducatelle*, L. Van Ham‡ and L.J. Peelman†
**Department of Pathology, Bacteriology and Avian Diseases, †Department of Nutrition, Genetics and Ethology and ‡Department of Small Animal Medicine and Clinical Biology, Faculty of Veterinary Medicine, Ghent University, Belgium*

Introduction: Alexander's disease (AD) or fibrinoid leucodystrophy is a rare neurodegenerative disorder of astrocyte dysfunction in man, characterized by eosinophilic intra-astrocytic inclusions termed Rosenthal fibres (RFs), which are ubiquitinated aggregates of glial fibrillary acidic protein (GFAP). Until now, all known genetic causes of AD have been attributed to GFAP mutations. A similar disorder was described phenotypically in 10 dogs and four sheep, but until now no causal mutations have been described.

Materials and Methods: A 4.5-month-old Labrador retriever with severe tetraplegia, spastic forelimbs and mild vestibular signs was submitted for necropsy examination. Brain tissue was processed routinely for histology and for immunohistochemistry using an antibody against GFAP. From frozen brain tissue, the complete GFAP coding sequence was amplified by RT-PCR, sequenced and compared with the canine reference sequence.

Results: There were no gross lesions. On histopathological examination of the brain and spinal cord, there were numerous hypereosinophilic, amorphous intra-astrocytic RFs, particularly perivascular and subpial in location. These RFs were immunopositive for GFAP. There were also hypertrophied astrocytes with large nuclei and pale hyaline cytoplasm. Genetic examination of the GFAP gene identified a heterozygous G→A nucleotide substitution resulting in an Arg→His amino acid substitution at position 240.

Conclusions: We detected a causal point mutation in a Labrador retriever with characteristic histopathological features of AD. This is an orthologous mutation to the heterozygous de novo dominant R239H hotspot mutation in man. To the best of our knowledge, this is the first report of a GFAP mutation in an animal with AD.

FATAL AORTOBRONCHIAL FISTULA IN A 7-YEAR-OLD WARMBLOOD MARE

H. Versnaeyen, V. Saey, R. Ducatelle and K. Chiers
Department of Veterinary Pathology, Faculty of Veterinary Medicine, University of Ghent, Belgium

Introduction: Aortobronchial fistula is a rare condition in man that is characterized by the development of a communication between the aorta and a branch of the bronchial tree. In man, this condition is associated with primary aortic pathology, most often aneurysms. The presentation is typically with haemoptysis, which may be intermittent and minor, or massive with a mortality rate of 100% if left untreated. Many cases will not be diagnosed until autopsy examination is performed.

Materials and Methods: A local veterinarian was called to check on a horse with mild haemoptysis. Blood work was normal and on endoscopy some blood was seen in the trachea. The veterinarian suspected a minor lung haemorrhage and advised to keep the horse calm for a week on a small meadow. Shortly after, the horse was found dead in the stable with a spread of blood and frothy sputum on walls.

Results: At the level of the brachiocephalic trunk, there was a large aortic aneurysm communicating with a pseudo-aneurysm that fistulated into a right bronchial branch. The right lung was severely haemorrhagic (secondary right lung bleeding). Within the aneurysm and pseudo-aneurysm, blood clots with fibrin were found from which *Streptococcus equi* subsp. *zooepidemicus* was isolated. On gross examination there was no indication of endocarditis.

Conclusions: Based on clinical presentation and gross findings, death was attributed to haemorrhage from an aortobronchial fistula. To the authors knowledge this is the first case of a fatal aortobronchial fistula in horses.

CNS HISTOPATHOLOGY ON 200 CATTLE WITH CLINICAL SUSPICION OF BOVINE SPONGIFORM ENCEPHALOPATHY IN DENMARK 2001–2015

T.K. Jensen
National Veterinary Institute, Technical University of Denmark, Denmark

Introduction: The first case of bovine spongiform encephalopathy (BSE) in Denmark was reported in 1992 in a Highland cow imported from the UK. Since 2000, a total of 18 indigenous BSE cases have been found in cattle. The last case was in 2009 in a 14-year-old dairy cow undergoing routine slaughter. The aim of this study was to summarize the pathological findings in 200 cattle with clinical suspicion of BSE in Denmark identified between 2001 and 2015.

Materials and Methods: Heads of cattle with suspicion of BSE submitted for laboratory examination during 2001 to spring 2015 were evaluated. Brainstem sections were examined for PrP^{SC} by IHC. Sections of cerebrum, cerebellum and brainstem were stained by HE and evaluated histopathologically.

Results: The annual number of BSE suspicions peaked in 2001 with 71 cases, followed by a gradual decrease until 2005. From 2006 onwards, a mean number of three cases was submitted annually. Two cases of BSE were diagnosed (in 2001 and 2003). The most prevalent differential diagnosis was listeriosis (54%), characterized by multifocal, necrotizing, non-suppurative encephalitis confined to the brainstem region. Forty-eight (24%) of the cases revealed no significant lesions, 35 cases revealed various CNS alternations and eight cases were unsuitable for histopathology due to autolysis.

Conclusions: In the years 2001 to 2015, two cases of BSE were diagnosed out of a total of 200 clinical suspicions. The most prevalent differential diagnosis was listeriosis.